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Perhaps that is one reason why no man had in his possession more than three or four arrows—for the most part he had only one of the iron tip kind.

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FISHHOOKS.—Most of the fishing is done with bow and arrow, but hooks are known to the Yaruros, and when they are able to obtain strong fine string they employ these hooks. Hooks are not only em-

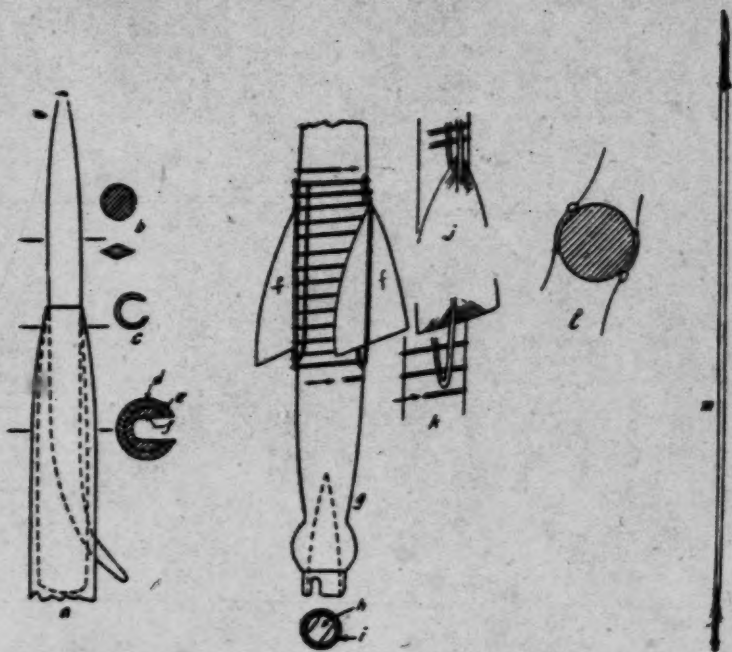


FIGURE 18.—a, Bone or iron point attached to shaft. b, Cross sections of points; round cross section is of the bone point; diamond-shaped cross section is of the iron point. c, Cross section of wax and twine binding. d, Cross section of reed shaft. e, Cross section of brazil wood to which point is actually fastened. f, Feathers. g, Butt end of arrow. h, Wooden plug neck. i, Reed shaft. j, k, l, Method of fastening feather to the arrow. m, Fish arrow.

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played for fish, but even for the chiguire, and sometimes for the crocodiles. The simplest kind is that shown in figure 20, c, which may consist of bone or wood. It measures about 6 inches in length. A stronger point of iron or hard wood is used for the manatee. This type is shown in figure 20, d. For crocodiles, generally a hard stick sharpened at both ends and baited with a large piece of meat is used. The crocodiles will swallow the stick and, if it is attached to a thick wire, it makes an excellent means of capturing these beasts.

DIGGING STICKS.—Next to the bows and arrows, the most important implement of the Yaruro is the digging stick, which will consist of a wooden handle from 3 to 4 feet long slipped into the handle of an

and then shooting into the still side pools of a stream into which he has driven a post with bait attached. He may also stand in a canoe to shoot. It is reported, though I have not myself seen it, that barbasco (*Jacquinia revoluta* or *mucronulata*) poison is used by some Yaruro.¹² No nets, weirs, traps, sweeps, or artificial fish pools are used. 226 [227]

Given the techniques and tools of the Yaruro, all the subsistence activities described can conveniently be done by one person. Some must be done by one person only, since the tools and techniques themselves do not permit two or more persons to operate jointly. As it were, the logic of the tools and techniques concerned demands utilization by single persons.¹³ Some of the tools and techniques might conveniently involve two or more persons, e. g. lashing tree trunks together to make a fence or cornering a capybara, but do not definitively require more than one person. Activities of all sorts may be done by aggregates of persons, each utilizing his own tools and techniques individually but neither the activity, the tools nor the techniques entail the aggregation of individuals. Thus, from the point of view of human organization, the technology, by itself, entails no managerial functions, no coordination of tasks which must be overseen by someone occupying an appropriately defined status.¹⁴ That is, there are no technologically determined positions of leadership in Yaruro society. Further, the technology as such entails no significant cooperation in work organization, even when this is convenient, and correspondingly, no standard work groups or management functions, as represented in some defined status, for facilitating cooperation are to be expected or to be found. In fact, Yaruro technology and resource distribution are such as to elicit considerable dispersion of activities and actors at any given time of work, and to inhibit the development of rank and the personal acquisition of superordinating prestige. 476 412 241 476 463 554

IV

We may now examine the habitat aspect of the ecological relationship. A clearly marked annual cycle occurs in the Yaruro habitat.¹⁵ However, despite a sharp seasonal change from heavy rains up to 60 inches in one half of the year to almost 132 136

¹² Personal communication from Mr. Thomas Rootes who has studied Yaruro linguistics for a number of months, having visited several groups.

¹³ Different kinds of tools require different kinds of organization. A simple hand saw can be used by only one person at a time. A logging saw, though it can awkwardly be used by one person, is surely best used by two persons. Certain other saws, e. g. pig saws, make up one of a series of machine processes on a single part of a product, the entire series being the unit of operation which requires a still more complex level of organization. Cf. Leeds, 1960 b. [412] [476]

¹⁴ For the structure of argument which is involved here, see LEEDS, 1960 b.

¹⁵ 'Habitat' here refers to all physical objects and conditions of the environment which are relevant to the existence or production of resources as defined by the culture. For the most part, then, 'habitat' refers to those environmental conditions such as humidity, temperature, insolation, rainfall, etc., which affect the food supply, as well as the food and water available for animals and plants and other culturally relevant physical objects. By extension, it refers to daily, seasonal, annual, and long-term variations and cycles in the various relevant factors of the environment, whether climatic, geologic, or biotic, which affect any of these supplies. [121] [221]